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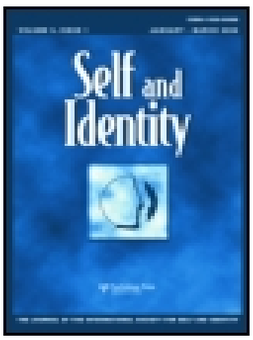

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Playing to the gallery: investigating the normative explanation of ingroup favoritism by testing the impact of imagined audience

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ABSTRACT

The present research examined the role of social norms as a determining source of ingroup favoritism in minimal groups. Across three studies (total $N = 814$), results showed that ingroup favoritism was reduced when participants imagined the reaction of an external (and egalitarian) entity, as compared to a control condition or a condition in which they were explicitly asked to imagine the reaction of *ingroup* members. In line with the prediction that the desire to appear as a good group member drives conformity to the ingroup norm, the findings also revealed that favoring the ingroup resulted in higher self-esteem (Study 2). This was however limited to situations where the ingroup norm was inferred or induced to be pro-discriminatory, but not when it was anti-discriminatory (Study 3). The proposed explanation is discussed in the light of dominant explanations of ingroup favoritism.

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Ingroup favoritism; norms; imagined audience; minimal groups; self-esteem

There is no separation between real and imaginary persons; indeed, to be imagined is to become real, in a social sense [. . .]

- Cooley (1902/1922, p.49)

Understanding intergroup discrimination and prejudice is one of the major challenges of social psychology. Despite the variety of explanations, approaches focusing on normative mechanisms are quite rare. Most often, theoretical models emphasize intra-individual, psychological, factors as the determining sources of intergroup discrimination. A glance at the *SAGE Handbook of prejudice, stereotyping and discrimination* (Dovidio et al., 2010) indeed reveals the predominance of models focusing on cognitive, affective, and motivational factors. In the few normative perspectives, social norms are usually restricted to a moderating role, where they are considered as releasing or constraining discrimination determined by some other basic process (Crandall & Eshleman, 2003; Ford & Ferguson, 2004; Jetten et al., 1996). The present paper aims at going one step further, by exploring the role of social norms as a *determining source of* intergroup discrimination in minimal groups.

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A Normative Perspective on Intergroup Discrimination

Although normative accounts of intergroup discrimination currently tend to be out of vogue, they were more common many decades ago (see Horowitz, 1936; Minard, 1952; Pettigrew, 1958; Sherif & Sherif, 1953). In the 60s-70s, Tajfel and collaborators (e.g., Billig & Tajfel, 1973; Tajfel, 1970; Tajfel et al., 1971) provided new insights into discrimination dynamics, by showing that people discriminate in minimal conditions, that is, when they have no knowledge about or direct investment in the intergroup context. At first sight this phenomenon would seem to have very little to do with social norms because these minimal groups were entirely new and unknown. This notwithstanding, Tajfel originally saw the origins of ingroup favoritism precisely in terms of social norms (e.g., Tajfel, 1970). Specifically, he argued that (1) people learn through their social interactions that favoring ingroup members is the prevalent norm in most intergroup contexts, and that (2) this perception is then generalized to the minimal situation, in which the ingroup norm is perceived, other things being equal, as being discriminatory by expectation and thus *by default*.

However, before testing it, this explanation was superseded by the account outlined in social identity theory (SIT), which focused on ingroup favoritism addressing the need for a positive and distinctive social identity (Tajfel & Turner, 1979). As part of this theoretical shift, normative explanations were criticized for two main reasons (see Pettigrew, 1991; Turner, 1980). The first issue concerned *circular reasoning*. Broadly speaking, the normative assumption is that people discriminate because others discriminate, which simply raises the question of why others discriminate (leading to an infinite regress). Hence, this approach was accused of simply re-describing, rather than *explaining* ingroup favoritism. The second issue concerned the *normative complexity* of the social world. For instance, in addition to the discriminatory norm, scholars also acknowledged the prevalence of a *fairness* norm. Accordingly, assuming that discrimination is the default norm would be an over-simplification of social reality.

We argue that these concerns are not as severe as previously assumed, and in any case should not have led to the complete dismissal of Tajfel's normative perspective. We believe that the circularity issue is relevant when referring to descriptive norms (i.e., simply what others do), but less so for *injunctive* norms (i.e., what others encourage us to do). This distinction was not considered at the time because it was only theorized and popularized about 20 years later (see Cialdini et al., 1990). In order to address the normative complexity issue, we also suggest that discrimination and fairness are indeed both normative, but that these norms are typically promoted by two different social agents. On the one hand, ingroup favoritism is clearly perceived as being promoted by the ingroup and its members (e.g., Assilaméhou & Testé, 2013; DeLamater et al., 1969). On the other hand, fairness norms are generally originally promoted by external entities, which are often supra-ordinate to (or "above") the intergroup situation and act as "moral referees" of the relationship between ingroups and outgroups. Indeed, external bodies, such as international organizations (Ishay, 2020) and high-level education (Pascarella et al., 1988) tend to promote humanitarian values where all human beings should be treated equally (see also Mcfarland et al., 2019).

To address these concerns and properly test Tajfel's abandoned assumptions, we believed it necessary to show that (1) people perceive the ingroup (but not supra-

ordinate bodies) to promote ingroup favoritism, and (2) that this perception is responsible for their tendency to favor the ingroup over the outgroup. The first postulate received support from Iacoviello and Spears (2018) experiments. In both a naturalistic setting (i.e., a national context) and a minimal group paradigm, they indeed showed that ingroup favoritism was perceived as being promoted by the *ingroup*. On the other hand, fairness was perceived as being promoted by *external entities* (i.e., the UN in the naturalistic context and social scientists in the minimal group paradigm). Half a century after Tajfel's original hypothesis, the foundations for the normative account *of* discrimination were established, going beyond models that have focused on normative encouragements or constraints *on* discrimination.

In the present research, we aim at going one step further in reviving this normative hypothesis, and testing the second postulate, namely that the perceived ingroup norm *causes* ingroup favoritism. More specifically, we should demonstrate that participants in minimal groups tend to conform to the inferred ingroup norm (rather than to external norms), and examine why they do so. This would provide strong evidence in favor of the general hypothesis that ingroup norm plays a determining role in the emergence of ingroup favoritism. That being said, we neither suggest that the normative explanation should replace the social identity one (inter alia), nor that it is the more compelling one. We simply argue that it should be considered as one viable account of ingroup favoritism (see also Spears & Otten, 2017).

The Self in the Eyes of (Imagined) Others

Tajfel's original assumption predicted that the perceived ingroup pro-discriminatory norm would drive participants' discriminatory behavior in minimal group settings. Research indeed suggests that people conform to ingroup normative expectations (and sometimes internalize them) in order to be fully accepted as group members and avoid social punishments (e.g., Horne, 2009; Rimal & Real, 2005; Sherif & Sherif, 1953). However, participants in minimal groups typically do not anticipate any interaction with other group members, and thus would not face social rewards or punishments. So why would people comply with perceived normative pressures (Deutsch & Gerard, 1955) aimed at favoring the ingroup? A possible answer can be found in Cooley's (1902/1922) work and the symbolic interactionism current that followed from it (e.g., Blumer, 1969; Mead, 1934; Shibutani, 1961, see Charon, 1992, for a review). The basic premise of this approach is that people's behaviors and self-perceptions are shaped by social interactions and the social audiences they imply. These interactions can be real or *imagined*. In this latter case, people typically think about how their manners, opinions, and behaviors are appraised by others, and this perceived judgment is then reflected in their self-image and thus self-esteem. To quote Cooley (1902/1922): " . . . so in imagination we perceive in another's mind some thought of our appearance, manners, aims, deeds, character, friends, and so on, and are variously affected by it." (p.93). Therefore, people adjust their behavior according to what they *believe* is socially approved and praised, especially by significant others (e.g., Cooley, 1902/1922; Mead, 1934) and members of their reference groups (Shibutani, 1955). Accordingly, behaviors are not just driven by instrumental motives, but also by more symbolic ones. People not only try to maximize the materialistic benefits that stem from social approval, but they are also (perhaps mainly) motivated to appear as a good person

and achieve a positive image of themselves in the eyes of important others, generating a positive self-esteem.

In line with this view, Leary's sociometer theory (Leary, 2005; Leary & Baumeister, 2000) defines self-esteem as an indicator of people's *perceived value* in a social network. Moreover, enhancing one's self-esteem does not necessarily require actual or direct approval and admiration from peers (or ingroup members), but also results from imagining these positive reactions (Marwick & Boyd, 2011; Tice, 1992). Therefore, we argue that people conform to social expectations, because the imagined social outcome resulting from this behavior is likely to garner imagined approval. Imagining that ingroup members praise them for being loyal group members and showing ingroup favoritism should thus boost self-esteem.

In sum, symbolic interactionism posits that social approval derived from *imagined* ingroup audiences could be just as powerful as the impact of real or co-present audiences for a further important reason. As self-categorization theory (SCT; Turner et al., 1987) makes clear, true group influence does not come from an external "group pressure" (Deutsch & Gerard, 1955), but emanates from the internalized social identity. As a consequence, influence does not need co-presence or surveillance by the group to realize or reenforce it (Turner, 1991). Moreover, the social identity model of deindividuation effects has argued that the physical absence of other ingroup members can even paradoxically lead to *stronger* group influence effects because group identity often becomes more salient in the absence of individuals or individuating information in situ (Postmes & Spears, 1998; Spears, 2017, 2021). In the minimal group paradigm, group members typically do not see who is and who is not a member of their group, arguably increasing the salience and impact of group identity (Spears et al., 2009; Tajfel, 1978).

Ingroup Favoritism and Self-Esteem

The literature on Self-Esteem Hypothesis (SEH) relating to group discrimination is particularly relevant for the normative perspective of discrimination, since it addresses the relationship between ingroup favoritism and self-esteem. Indeed, the first corollary of the SEH is that favoring the ingroup should lead to greater self-esteem (see Abrams & Hogg, 1988). This assumption stems from social identity theory's motive for a positive social identity (see also Oakes & Turner, 1980). Accordingly, ingroup favoritism contributes to positively differentiating the ingroup from a relevant outgroup, thereby enhancing the ingroup status and, by extension, its members' self-esteem. This assumption has received generally supportive evidence (for reviews, see Martiny & Rubin, 2016; Rubin & Hewstone, 1998) especially when refined to consider group norms (Hertel & Kerr, 2001; Iacoviello et al., 2017; Scheepers et al., 2009). Specifically, evidence shows that ingroup favoritism increases self-esteem, but only when this behavior is congruent with the ingroup norm (i.e., when it is normative). Ingroup favoritism increases self-esteem when the ingroup norm promotes discrimination, but it *decreases* self-esteem when the ingroup norm promotes fairness. This suggests that self-esteem more likely results from conformity to the inferred ingroup *norm* (as claimed by the normative perspective), than from the act of favoring the ingroup per se (as claimed by the classical understanding of the SEH). In other words, there is compelling evidence that self-esteem primarily stems from being a good group member, rather than being member of a good group.

To summarize, we hypothesize that in the minimal group paradigm people show ingroup favoritism in order to conform to the injunctive ingroup norm, which is inferred by default as promoting ingroup favoritism. This conformity would appear as a result of people's desire to enhance their self-esteem by feeling that they are good group members.

The current research

The aim of the present research is to show that, in minimal groups, conformity to the inferred ingroup norm plays a determining role in the emergence of ingroup favoritism. In order to test this idea, we examined the impact of an imagined audience on the tendency to favor ingroup members over outgroup members. We argue that people show ingroup favoritism because they imagine other ingroup members to react favorably to this behavior. Ingroup favoritism should thus be reduced when participants are focused on an alternative and egalitarian entity, which is external to the intergroup context. Accordingly, Hypothesis 1 proposes that ingroup favoritism is greater when people infer or imagine the reaction of their fellow ingroup members than when they imagine the reaction of an entity that is external to the intergroup context (in this case, social scientists). In the minimal group paradigm, social scientists might indeed be considered as "moral referees" of the intergroup situation insofar as they are perceived as promoting intergroup fairness (see Iacoviello & Spears, 2018).

Two further hypotheses are aimed at investigating the boundary conditions of this predicted effect. We first examined whether any ingroup favoritism resulting from conformity to the inferred (discriminatory) ingroup norm is aimed at satisfying people's motivation to be affiliated to social groups. If this is the case, Hypothesis 1a predicts that the impact of the imagined audience on ingroup favoritism is more prominent when affiliation motives are high (vs. low). Second, as the effect of imagined audience should appear as the result of people conforming to the inferred pro-discriminatory ingroup norm, it should only be observed when the norm promotes ingroup favoritism, but not when it promotes fairness (H1b).

We also investigate why people would conform to the ingroup norm when the likelihood of facing actual social reward or punishment is absent (i.e., as it is the case in the minimal group paradigm). As explained above, conformity stems from people's desire to enhance their self-image because they believe they have acted as good group members not because of tangible rewards or punishments from the group (cf. Deutsch & Gerard, 1955). Therefore, conforming to the inferred ingroup discriminatory norm by showing ingroup favoritism should result in increased levels of self-esteem. In particular, Hypothesis 2a states that favoring the ingroup enhances self-esteem, because people infer the reaction of ingroup members to be positive. Further, this tendency should only appear when the ingroup norm promotes ingroup favoritism, but not when it promotes fairness (H2b). In this latter condition, ingroup favoritism should rather be associated with decreased self-esteem, because people infer the reaction of ingroup members to be negative.

Three studies tested these hypotheses. Study 1 examined H1 and H1a, Study 2 examined H1, H1a and H2a, and Study 3 investigated H1b and H2b.

All studies have been conducted following ethical guidelines specified in the APA Code of Conduct, and have received approval form the University of Groningen's Ethical

Committee Psychology (N° 16,376-O, N° 16,402-O, N° 17,001-O). Data can be found on the OSF platform (doi:10.17605/OSF.IO/63,852).

Study 1

The first study manipulated the audience participants were asked to imagine while allocating resources to ingroup and outgroup members. They were either asked to imagine ingroup members or an external entity (i.e., social scientists). We included a control condition, in which they computed the allocation task without any imagined audience. According to our rationale, ingroup favoritism is driven by people's tendency to conform to the ingroup injunctive norm that is inferred to promote ingroup favoritism by default. Ingroup favoritism should therefore be as evident in the control condition (the "default" ingroup norm assumption) as when participants are asked to imagine the reaction of ingroup members, and should be reduced when they are focused on an alternative source promoting intergroup fairness (i.e., an external entity). Consequently, in line with H1, we predict that ingroup favoritism should be greater in both the ingroup and the control conditions, than in the external entity condition.

To test H1a, we also measured participants' affiliation motives. At the beginning of the study, participants thus answered a need to belong scale, as well as a "groupiness" scale, measuring the perceived value of (being in) groups. The effect of imagined audience on ingroup favoritism should be more pronounced among people who are highly motivated to be affiliated to social groups.

Method

Participants and design. Participants were recruited on Amazon's MTurk, which has been shown to be a valid and reliable source of data collection (e.g., Berinsky et al., 2012; Buhrmester et al., 2011). They were compensated for their time with US$0.35. Following Simmons et al.'s (2011) recommendation, we used the rule of thumb of 50 participants per experimental condition. The final sample consisted of 158 US participants (100 women and 58 men; M_{age} = 36.91 years, SD_{age} = 12.14). Most of them (97.5%) were American citizens. They were randomly assigned to one of the three experimental conditions (imagined audience: ingroup vs. external entity vs. control).

A sensitivity power analysis using G*Power indicates that this sample size provided 80% power to detect effect sizes of η_p^2 = 0.06 or greater (α = 0.05). Considering Richard, Bond and Stokes-Zoota's (2003) meta-analysis showed that the average effect size for ingroup favoritism is 0.12, the present sample size appears well-powered.

Procedure. We first measured participants' affiliation motives, which were assessed through need to belong and groupiness. Then participants were assigned to minimal groups (see Tajfel et al., 1971). Participants were informed that they would be presented with five pairs of abstract paintings. In each of these pairs of paintings, one painting had been created by a painter named Dusek and the other one by a painter named Tausig. The participants' task was to indicate, for each pair, the painting they like the most. After they performed the task, they were informed that previous research had established the existence of two groups of people – the group of people preferring Dusek paintings and the group of people preferring Tausig paintings – and that these groups were similar

in terms of size, average age and gender ratio. They then received feedback about their paintings preference. Actually, all participants were assigned to the Dusek group. After the group assignment, they were asked to divide points between ingroup and outgroup members. The task was performed on six different matrices, which were adapted from Bourhis et al. (1994). They were informed that the points should be considered as "having symbolic value (like cent coins . . .)". Participants were presented with an example of matrix and learned how to allocate points between two other participants denoted by a number and their group membership: one a Dusek member and the other a Tausig member. Before starting the task, we manipulated the imagined presence of a specific audience (see below). Participants then provided their demographics, including political orientation (from 1 = *extremely left wing* to 7 = *extremely right wing; M* = 3.56, *SD* = 1.76) and were fully debriefed. Correlation with both need to belong, $r(158) = -.08$, $p = .231$, and groupiness, $r(158) = .01$, $p = .879$, were not significant.

Unless otherwise mentioned, answers to all questions in this study were collected on 7-points scales ranging from 1 ("Completely disagree") to 7 ("Completely agree").

Measures of affiliation motives

Need to belong. The need to belong to social groups was measured with a five-item sample of the Leary et al. (2013) scale. Sample items were: "My feelings are easily hurt when I feel that others do not accept me" and "I seldom worry about whether other people care about me" (reversed coded). After recoding, a need to belong score was computed such as a higher score indicates higher levels of need to belong (α = .76, *M* = 4.46, *SD* = 1.20).

Groupiness. Because the need to belong scale mainly assesses the group affiliation motivation in preventive terms (i.e., the fear of not being accepted), we added a measure of groupiness, which assesses it in a more promoting terms (i.e., people's appreciation of being in groups). Groupiness was measured,[1,2,3] using a 4-item scale (see Kuppens et al., 2021). Examples of items were: "I like building bonds with members of the same group" and "I can enjoy spending time with a group of people". A groupiness score was computed such as a higher score indicates higher levels of groupiness (α = .91, *M* = 4.69, *SD* = 1.40). Need to belong and groupiness were positively but only moderately correlated, $r(158) = .23$, $p = .004$.

Manipulation of imagined audience. Before performing the point-allocation task, participants were asked to imagine that a certain audience is looking at the way they are distributing points, and to consider what this audience would think of them. In the ingroup condition, the imagined audience were "other members of the ingroup", while in the external entity condition, the imagined audience were "social scientists working on intergroup relations". In the control condition, there was no mention of an imagined audience.

Ingroup favoritism. Participants' ingroup favoritism behavior was assessed by subtracting the average points allocated to ingroup members from the average points allocated to outgroup members (see Diehl, 1990). The score of ingroup favoritism was thus computed such that a positive score indicates ingroup favoritism, a negative score indicates outgroup favoritism, and 0 indicates perfect equality (*M* = 1.59, *SD* = 3.50).

Results

Main analyses. In order to adequately test for H1, we first computed two Helmert contrasts with the imagined audience variable. Indeed, omnibus analyses test the general hypothesis that "there is a difference between the experimental conditions" without specifying where this difference lies. Therefore, the null hypothesis may be falsified in several ways. Contrast analyses allow us to fix this issue, as they have greater test power (there is no arbitrary division of the effect of variance; see Furr & Rosenthal, 2003). In the present study, we used Helmert contrasts in order to test for H1, according to which ingroup favoritism should be greater in both the ingroup and the control conditions, than in the external entity condition. This specific hypothesis corresponds to the following statistical contrast, C1: ingroup condition = −1; control condition = −1; external entity condition = 2. In addition, the residual variance must explain only a non-significant part of the hypothesis. Accordingly, the residual effect needs to be not significant. To test the residual effect of the hypothesis we created a second contrast that opposes the control condition to the two other conditions, C2: ingroup condition = 1; control condition = −1; external entity condition = 0). In other words, C1 should be significant, while C2 should not.

We first performed a linear regression analysis on the ingroup favoritism score, with the two orthogonal contrasts (C1 and C2) as predictors. The analysis first showed that the intercept was positive and significantly different from zero, $B = 1.59$, $t(155) = 5.79$, $p < .001$, 95% CI [1.05, 2.14], $\eta_p^2 = .18$, which indicated a general tendency to favor ingroup members over outgroup members. It also produced the expected effect of C1, $B = -0.42$, $t(155) = -2.16$, $p = .032$, 95% CI [−0.80, −0.04], $\eta_p^2 = .03$. As illustrated in Figure 1, ingroup favoritism was greater in the modality combining the ingroup and the control conditions ($M = 2.02$, $SE = 0.34$) than in the external entity condition ($M = 0.75$, $SE = 0.48$). C2 was however not significant, $B = 0.31$, $t(155) = 0.91$, $p = .365$, 95% CI [−0.36, 0.97], $\eta_p^2 = .01$, indicating that ingroup favoritism did not differ between the ingroup ($M = 2.32$, $SE = 0.48$) and the control condition ($M = 1.71$, $SE = 0.49$)[1].

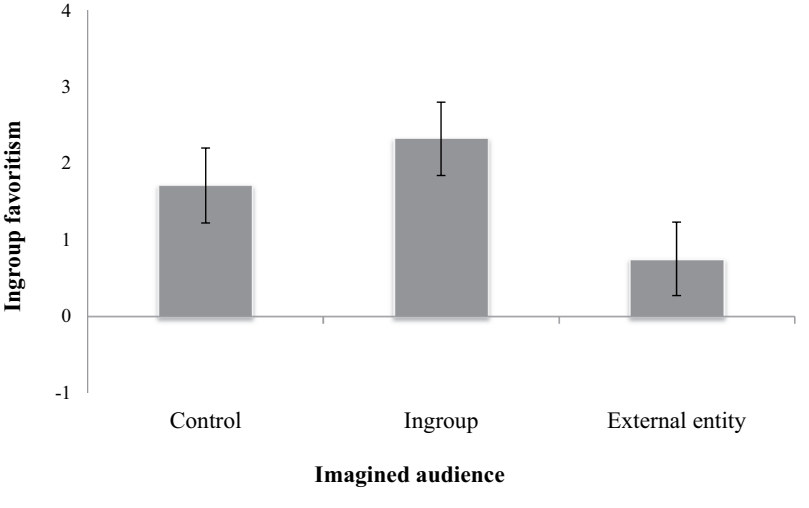

Figure 1. Ingroup favoritism according to the imagined audience (Study 1). Error bars represent ±1 SE.

In order to examine if the effect of the imagined audience on ingroup favoritism was moderated by participants' affiliation motives (H1a), we then performed two separate linear regression analyses on the ingroup favoritism score, with C1, C2, one of the two affiliation-motive variables (mean-centered) and their interactions (except those including the two orthogonal contrasts) as predictors. Neither need to belong nor groupiness were reliable moderators of C1, all $B \leq 0.09$, $ts(152) \leq 0.52$, $ps \geq .605$, $\eta^2_p \leq 0.01$[2].

Complementary analyses. Post-hoc reflections made us wonder whether political ideologies may play a moderating role. Political ideologies indeed mirror values related to intergroup relations (Jost et al., 2003; Raijman et al., 2003). More specifically, conservatives' values tend to be related to ingroup loyalty, while liberals' values tend to be related to humanitarianism; Caprara et al. (2006); Graham et al., 2011). We therefore performed a linear regression analysis on the ingroup favoritism score, with C1, C2, political orientation (mean-centered) and their interactions (except those including the two orthogonal contrasts) as predictors. The analysis showed a significant C1 × Political orientation interaction, $B = -0.26$, $t(152) = -2.30$, $p = .023$, 95% CI [−0.49, −0.04], $\eta_p^2 = .03$. Investigation of the simple effects showed that, among conservatives (+1 SD), ingroup favoritism was greater in the modality combining the ingroup and the control conditions ($M = 2.94$, $SE = 0.45$) than in the external entity condition ($M = 0.29$, $SE = 0.71$), $B = -0.88$, $t(152) = -3.06$, $p = .003$, 95% CI [−1.44, −0.31], $\eta_p^2 = .06$. Conversely, among liberals (−1 SD), ingroup favoritism did not vary according to the imagined audience ($Ms = 1.00$ and 1.14, $SEs = 0.47$ and 0.64, for the modality combining the ingroup and the control conditions and the external entity condition respectively), $B = 0.04$, $t(152) = 0.16$, $p = .872$, 95% CI [−0.49, 0.57], $\eta_p^2 < .01$. The main effect of political orientation was marginally significant, $B = 0.28$, $t(152) = 1.76$, $p = .081$, 95% CI [−0.04, 0.59], $\eta_p^2 = .02$, and the C2 × political orientation was not significant, $B = 0.01$, $t(152) = 0.06$, $p = .956$, 95% CI [−0.37, 0.39], $\eta_p^2 < .01$[3].

A comparison between the basic model and the three moderation models with the detailed effects can be found in Table 1.

Discussion

Consistent with H1, results showed that ingroup favoritism was greater in the control condition and in the imagined presence of ingroup members condition, than when they imagined the presence of an external entity. Findings did not support the assumption that this effect is more pronounced among participants who are highly motivated to be affiliated to social groups (H1a). Complementary analyses, however, revealed that political orientation was an effective moderator of the imagined audience effect. This effect appeared primarily among conservatives. Liberals indeed showed low levels of ingroup favoritism, regardless of the imagined audience.

Study 2

Study 2 first aimed to test H1 and H1a, and replicate Study 1's findings. As we observed the same outcome in both the control and the ingroup conditions in Study 1, it is likely that the same process – i.e., relying on the inferred ingroup discriminatory norm to allocate points – is at play in these conditions. In order to devise amore parsimonious

Table 1. Comparison of the linear regression models in Study 1. Dependent variable is ingroup favoritism.

Model	Adjusted R-Squared		*B*	*Std. Error*	*t*	*p*	η^2_p
1	.022	Intercept	1.593	0.275	5.791	< .001	.178
		C1	−0.419	0.194	−2.158	.032	.029
		C2	0.307	0.337	0.909	.365	.005
2	.026	Intercept	1.584	0.275	5.769	< .001	.180
		C1	−0.430	0.194	−2.217	.028	.031
		C2	0.307	0.337	0.913	.363	.005
		Belong	0.380	0.230	1.650	.101	.018
		C1 × Belong	0.087	0.169	0.519	.605	.002
		C2 × Belong	0.263	0.272	0.967	.335	.006
3	.009	Intercept	1.612	0.279	5.784	< .001	.180
		C1	−0.434	0.196	−2.211	.029	.031
		C2	0.348	0.342	1.015	.312	.007
		Groupiness	−0.178	0.206	−0.865	.388	.005
		C1 × Groupiness	0.039	0.145	0.268	.789	.000
		C2 × Groupiness	−0.150	0.252	−0.595	.553	.002
4	.058	Intercept	1.547	0.276	5.608	< .001	.171
		C1	−0.417	0.193	−2.157	.033	.030
		C2	0.072	0.341	0.212	.832	.000
		Political	0.279	0.159	1.756	.081	.020
		C1 × Political	−0.261	0.113	−2.303	.023	.034
		C2 × Political	0.011	0.193	0.056	.956	.000

design, we therefore only compared the ingroup audience condition to the external entity condition. Moreover, we manipulated the motivation to be affiliated to social groups (in addition to measuring it at the beginning of the study), which would provide a more compelling test of H1a.

We also examined the consequences of showing ingroup favoritism on self-esteem. H2a predicts that ingroup favoritism should be associated with greater self-esteem. According to our normative perspective, this effect should be mediated by participants' inference about the (positive) reaction of their fellow ingroup members. Finally, the present study checked norm perceptions of the ingroup and of the external entity. Even though previous research has shown that the ingroup norm is perceived as more discriminatory than the social scientists norm (Iacoviello & Spears, 2018), we wanted to acknowledge this in the present study.

Method

Participants and design. Participants were recruited on Amazon's Mechanical Turk and were compensated with US$0.35. We aimed at recruiting more than 50 participants per cell of the experimental design and therefore recruited about 300 participants. Our final sample size consisted of 308 participants living in the US (192 women and 116 men; M_{age} = 36.56 years, SD_{age} = 12.40). All of them were American citizens. They were randomly assigned to one cell of the 2 (imagined audience: ingroup vs. external entity) × 2 (affiliation motive: high vs. low) between-participants design.

A sensitivity power analysis using G*Power suggests that this sample size provided 80% power to detect effect sizes of η_p^2 = 0.03 or greater (α = 0.05). Considering that the

effect size of C1 in Study 1 was of similar magnitude (i.e., $\eta_p^2 = 0.03$), the present sample size appears well-powered.

Procedure. As in the preceding study, participants answered the need to belong and the groupiness measures, performed the paintings task and were eventually assigned to their minimal group. We then manipulated the motivation to be affiliated to social groups with a task which consisted of reminding them of past events of rejection or inclusion. Participants were introduced to the point-allocation task and were assigned to one of the two conditions of imagined audience. After they had performed the point-allocation task, they answered measures of the inferred reaction of other ingroup members, of the perceived injunctive norm of the ingroup and the external entity, and of personal self-esteem. Finally, they provided their political orientation (from 1 = *extremely left wing* to 7 = *extremely right wing; M* = 3.53, *SD* = 1.79) and their demographics. Unless otherwise mentioned, answers to all questions in this study were collected on 7-points scales ranging from 1 ("Completely disagree") to 7 ("Completely agree").

Measures of affiliation motives

Need to belong and groupiness. Measures of need to belong (α = .78, *M* = 4.40, *SD* = 1.26) and groupiness (α = .87, *M* = 4.91, *SD* = 1.24) were identical to Study 1's. The correlation between these two scores was positive and significant, $r(308) = .28$, $p < .001$.

Independent variables.

Affiliation motive. The manipulation of the motivation to be affiliated to groups was inspired by Maner et al. (2007; Study 1). Participants were asked to remind themselves of past events in which they had experienced social rejection vs. social acceptance. More specifically, in the rejection condition [acceptance condition in brackets], they were asked to think about moments of their life when they had felt rejected [accepted] by other people or excluded from [included in] a group, and to briefly describe these events in a box below. In line with Maner et al. (2007), participants recalling episodes of social rejection should be more motivated to reconnect with people than participants reminding episodes of social acceptance.

Imagined audience. Imagined audience was manipulated in the same way as in Study 1, except that the control condition was absent.

Dependent variables.

Ingroup favoritism. Ingroup favoritism was assessed in the same way as in Study 1.

Inferred reaction of the ingroup. Participants were asked to infer how other ingroup members would react to the way they had allocated the points. Five items assessed a positive reaction: "they would be happy", " . . . be satisfied", " . . . like me", " . . . welcome me", " . . . praise me" (α = .92, *M* = 4.90, *SD* = 1.33). Six items assessed a negative reaction: "they would be upset", " . . . be disappointed", " . . . reject me", " . . . avoid me", " . . . exclude me", " . . . try to convince me to behave otherwise in the future" (α = .92, *M* = 2.84, *SD* = 1.39). The score of inferred reaction was computed by subtracting the mean score of positive reaction from the mean score of negative reaction (*M* = 2.07, *SD* = 2.48). A positive score thus indicated a relatively positive reaction and a negative score indicated a relatively negative reaction.

Self-esteem. Personal self-esteem was assessed with a five-item sample of the Rosenberg (1979) scale. In order to measure state (rather than trait) personal self-

Table 2. Descriptive statistics and correlations (Study 2)..

Variable	*M*	*SD*	1	2	3	4	5	6	7	8
1. Need to belong	4.40	1.26	-	-	-	-	-	-	-	-
2. Groupiness	4.91	1.24	.28***	-	-	-	-	-	-	-
3. Political orientation	3.53	1.79	.04	.06	-	-	-	-	-	-
4. Ingroup favoritism	2.11	3.99	.08	.13*	.09†	-	-	-	-	-
5. Inferred reaction	2.07	2.48	.14*	.32***	.14*	.43***	-	-	-	-
6. Self-esteem	5.41	1.32	–.13*	.31***	.02	.13*	.37***	-	-	-
7. Ingroup norm	4.92	1.50	.03	.10†	.03	.41***	.12*	.10†	-	-
8. External norm	4.37	1.64	.08	.15*	.20**	.29***	.14*	.07	.38***	-

Notes: *** $p < .001$, * $p < .01$, * $p < .05$, † $p < .10$

esteem, we asked to rate to what extent each of the five statements reflected their "present state of mind". Sample items were: "I feel that I have a number of good qualities" and "I feel I do not have much to be proud of" (reversed coding). After appropriate recoding, a self-esteem score was computed such that a higher score indicates greater self-esteem (α = .88, *M* = 5.41, *SD* = 1.32).

Norm perception. Each participants (independent of the experimental condition) answered two items measuring both perceptions of the injuctive norm of the ingroup and of the external entity. The ingroup injunctive norm was assessed with the item: "To what extent do you believe that most of the other members of the group Dusek think it is OK to favor their ingroup members over members of the group Tausig?" The external entity's injunctive norm was assessed with the item: "To what extent do you believe that social scientists think it is OK for people to favor their ingroup members over members of the other group?" They answered on a 7-points scales ranging from 1 ("Not at all") to 7 ("Completely").

Descriptive statistics and correlations between all measures are displayed in Table 2.

Results

In order to check that the ingroup norm was perceived as more discriminatory than the external entity norm, we first analyzed norm perceptions. Then, we analyzed results on ingroup favoritism and tested H1 and H1a. Finally, we examined H2a, by analyzing the impact of ingroup favoritism on self-esteem, which should be mediated by the inferred (positive) reaction of the ingroup.

Norm perceptions. We performed a full-factorial repeated-measures ANCOVA on the norm perceptions, with source of the norm (ingroup vs. external entity) as a within-participants factor, and imagined audience (ingroup vs. external entity) and the manipulation of affiliation motive (high vs. low) as between-participants factors. As expected, the analysis showed a main effect of the source of the norm, $F(1,303) = 31.42$, $p < .001$, $\eta_p^2 = .09$. The ingroup norm was perceived as promoting ingroup favoritism more than the social scientists norm (*Ms* = 4.93 and 4.37, *SEs* = 0.09 and 0.09, respectively). This effect was qualified by an unexpected Source of the norm × Affiliation motive interaction, $F(1,303) = 5.30$, $p = .022$, $\eta_p^2 = .02$, such that the source of the norm discrepancy was greater in the low affiliation motive condition (*Ms* = 5.11 and 4.32, *SEs* = 0.12 and 0.14, for the ingroup and the social scientists norms, respectively) than in the high affiliation motive condition (*Ms* = 4.75 and 4.42, *SEs* = 0.12 and 0.13, for the ingroup and the social scientists norms, respectively). The analysis also revealed a main effect of imagined

audience, $F(1,303) = 3.94$, $p = .048$, $\eta_p^2 = .01$. Overall, both norms were perceived as promoting ingroup favoritism to a greater extent in the ingroup condition ($M = 4.80$, $SE = 0.11$) than in the external entity condition ($M = 4.50$, $SE = 0.10$). All other effects were not significant, all $Fs(1,303) \leq 1.82$, $ps \geq .178$, $\eta_p^2 \leq .01$.

Ingroup favoritism. We performed a linear regression analysis on the score of ingroup favoritism, with imagined audience (coded −1 for ingroup and +1 for external entity), affiliation motive (coded −1 for high and +1 for low) and their interaction as predictors. The analysis first showed that the intercept was positive and significantly different from zero, $B = 1.48$, $t(304) = 4.72$, $p < .001$, 95% CI [0.86, 2.09], $\eta_p^2 = .23$, suggesting a general tendency toward ingroup favoritism. In line with H1, the main effect of imagined audience was also significant, $B = -0.67$, $t(304) = -2.98$, $p = .003$, 95% CI [−1.11, −0.23], $\eta_p^2 = .03$. Ingroup favoritism was greater in the ingroup condition ($M = 2.81$, $SE = 0.32$) than in the external entity condition ($M = 1.48$, $SE = 0.31$) (see Figure 2). At odds with H1a, the Imagined audience × Affiliation motive interaction was non-significant, $B = -0.22$, $t(304) = -0.96$, $p = .339$, 95% CI [−0.66, 0.23], $\eta_p^2 < .01$, as was the main effect of affiliation motive, $B = 0.30$, $t(304) = 1.35$, $p = .179$, 95% CI [−0.14, 0.74], $\eta_p^2 < .01$.

We then performed two linear regression analyses on the ingroup favoritism score, with imagined audience, the manipulation of affiliation motive, one of the two measures of the motivation to be affiliated to groups (mean-centered) and their interactions as predictors. Apart from the previously described main effect of imagined audience, the analysis including groupiness only revealed a marginally significant and positive main effect of groupiness, $B = 0.35$, $t(300) = 1.90$, $p = .058$, 95% CI [−0.01, 0.71], $\eta_p^2 = .01$. All the interactions including groupiness were non-significant, all $Bs \leq 0.14$, $ts(300) \leq 0.75$, $ps \geq .454$, $\eta_p^2 \leq .01$. The analysis with need to belong as predictor showed no effect involving need to belong (neither the main effect nor the interactions), all $Bs \leq 0.21$, $ts(300) \leq 1.17$, $ps \geq .242$, $\eta_p^2 \leq .01$. Again, these patterns of results did not support H1a.

As in the previous studies, a complementary analysis investigated political orientation as a potential moderator. We performed a linear regression analyses on the ingroup

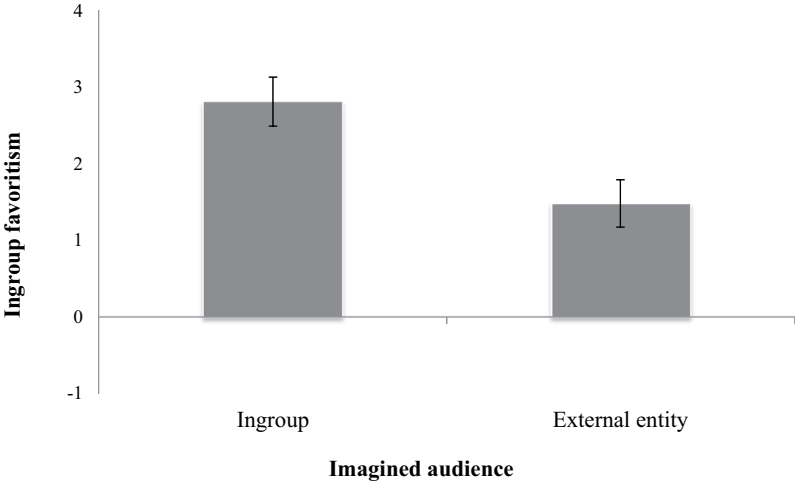

Figure 2. Ingroup favoritism according to imagined audience (Study 2). Error bars represent ±1 SE.

favoritism score, with imagined audience, affiliation motive, political orientation (mean-centered) and their interactions as predictors. The analysis showed a marginally significant Imagined audience × Political orientation interaction, $B = -0.23$, $t(300) = -1.86$, $p = .064$, 95% CI [−0.48, 0.01], $\eta_p^2 = .01$. Consistent with Study 1, examination of the simple effects showed that, among conservatives (+1 SD), ingroup favoritism was greater in the ingroup condition ($M = 3.57$, $SE = 0.44$) than in the external entity condition ($M = 1.41$, $SE = 0.45$), $B = -1.08$, $t(300) = -3.41$, $p = .001$, 95% CI [−1.70, −0.46], $\eta_p^2 = .04$. Among liberals (−1 SD) however, ingroup favoritism was not different according to the imagined audience ($Ms = 2.02$ and 1.53, $SEs = 0.44$ and 0.44, in the ingroup and the external entity conditions, respectively), $B = -0.25$, $t(300) = -0.78$, $p = .437$, 95% CI [−0.87, 0.38], $\eta_p^2 < .01$. All other effects involving political orientation were non-significant, all $Bs \leq 0.20$, $ts(300) \leq 1.60$, $ps \geq .111$, $\eta_p^2 \leq .01$.

A comparison between the basic model and the three moderation models with the detailed effects can be found in Table 3.

Self-esteem and inferred reaction of ingroup. Based on a normative account of the self-esteem hypothesis, we examined consequences of discriminating on self-esteem. We first performed a linear regression analysis on self-esteem, with ingroup favoritism as the predictor. Results showed a positive and significant effect of ingroup favoritism, $B = 0.18$, $t(306) = 2.34$, $p = .020$, 95% CI [0.03, 0.32], $\eta_p^2 = .02$.

Consistent with H2a, we then examined if this effect was accounted for by the inferred positive reaction of ingroup members to their behavior (see Figure 3, left panel). We performed a PROCESS Model 4 mediation analysis, using 10,000 bootstrapped samples following Hayes (2013) recommendations. The model included ingroup favoritism as the predictor, self-esteem as the dependent variable, inferred reaction of the ingroup as the mediator, and imagined audience and affiliation motive as controlled variables. This analysis showed that ingroup favoritism predicted inferred (positive) reaction of the ingroup, $B = 0.27$ $SE = .03$, $p < .001$, 95% CI [0.20, 0.33], which in turn predicted self-esteem, $B = 0.20$ $SE = .03$, $p < .001$, 95% CI [0.14, 0.26]. The direct effect of ingroup favoritism became non-significant when controlling for inferred reaction of the ingroup, $B = -0.16$ $SE = .02$, $p = .417$, 95% CI [−0.05, 0.02]. Finally, the indirect effect, mediated by the inferred reaction of the ingroup, was significant, $B = 0.05$ $SE = .01$, 95% CI [0.04, 0.08]. In summary, the act of favoring the ingroup resulted in higher self-esteem, because such a behavior was perceived as being normative (it is inferred to elicit positive reactions from ingroup members).

Discussion

Replicating Study 1, the present findings showed that ingroup favoritism was greater when people imagined that other ingroup members (vs. an external entity) were looking at the way they performed the point-allocation task. Similar to the preceding studies, this effect did not depend on participants' affiliation motives. Indeed, neither the measures of need to belong and groupiness, nor the manipulation of the affiliation motive moderated the impact of the imagined audience on ingroup favoritism. Given the consistency of the two studies, it seems that conformity to the ingroup pro-discriminatory norm is unlikely to be accounted for by people's desire to affiliate to groups generally. As Study 1, political orientation appeared to be an effective

Table 3. Comparison of the linear regression models in Study 2. Dependent variable is ingroup favoritism.

Model	Adjusted R-Squared		*B*	*Std. Error*	*t*	*p*	η^2_p
1	.026	Intercept	2.143	0.224	9.551	< .001	.231
		Audience	-0.668	0.224	-2.976	.003	.028
		Affiliation	0.302	0.224	1.348	.179	.006
		Audience ×Affiliation	-0.215	0.224	-0.957	.339	.003
2	.019	Intercept	2.147	0.226	9.515	< .001	.232
		Audience	-0.650	0.226	-2.883	.003	.027
		Affiliation	0.291	0.226	1.290	.198	.005
		Audience ×Affiliation	-0.214	0.226	-0.950	.343	.006.
		Belong	0.211	0.180	1.173	.242	.001
		Audience ×Belong	0.077	0.180	0.426	.670	.000
		Affiliation ×Belong	-0.023	0.180	-0.130	.897	.003
		Audience ×Affiliation ×Belong	-0.073	0.180	-0.405	.686	.001
3	.030	Intercept	2.151	0.225	9.563	< .001	.234
		Audience	-0.635	0.225	-2.826	.005	.026
		Affiliation	0.294	0.225	1.308	.192	.012
		Audience ×Affiliation	-0.201	0.225	-0.894	.372	.006
		Groupiness	0.349	0.183	1.903	.058	.002
		Audience ×Groupiness	0.138	0.183	0.750	.454	.001
		Affiliation ×Groupiness	0.105	0.183	0.571	.568	.003
		Audience ×Affiliation ×Groupiness	0.067	0.183	0.365	.715	.000
4	.034.	Intercept	2.134	0.224	9.545	< .001	.233
		Audience	-0.663	0.224	-2.965	.003	.028
		Affiliation	0.320	0.224	1.432	.153	.008
		Audience ×Affiliation	-0.228	0.224	-1.022	.308	.007
		Political	0.200	.125	1.600	.111	.011
		Audience ×Political	-0.232	.125	-1.857	.064	.001
		Affiliation ×Political	0.053	.125	0.426	.670	.003
		Audience ×Affiliation ×Political	0.016	.125	0.126	.900	.000

moderator. The effect of the imagined audience was more prominent among conservatives than among liberals.

Supporting H2a, the results also revealed that ingroup favoritism was followed by enhanced self-esteem. This was mediated by the inferred positive reaction of ingroup members.

Study 3

Study 3 manipulated both imagined audience (ingroup vs. external entity) and the injunctive ingroup norm (pro- vs. anti-discrimination). It first tested H1b, according to which the impact of the imagined audience on ingroup favoritism is dependent on the ingroup norm. Ingroup favoritism should be higher when the imagined audience is the ingroup than when it is the external entity, but only when the ingroup norm is pro-discriminatory (vs. anti-discrimination). The present study also investigated the consequences of discriminating for self-esteem. Based on the normative perspective of the SEH, H2b predicts that favoring the ingroup should only be associated with increased self-esteem, when the ingroup norm is pro-discriminatory. By contrast, when the ingroup norm is anti-discriminatory, ingroup favoritism should decrease self-esteem. Moreover, this effect should be mediated by the inferred reaction of the ingroup. The increased self-esteem in the pro-discriminatory norm condition should appear as the result of perceiving that favoring the ingroup is the expected thing to

do. Conversely, the decreased self-esteem in the anti-discriminatory condition should emerge as the result of perceiving that favoring the ingroup is the wrong thing to do (i.e., fairness is promoted).

Method

Participants and design. Participants were recruited on Amazon's Mechanical Turk and were compensated with US$0.35. As for the preceding study, we aimed at recruiting about 300 participants. Our final sample size thus consisted of 348 participants living in the US (215 women and 133 men; M_{age} = 38.61 years, SD_{age} = 12.78). Most of them (97.7%) were American citizens. They were randomly assigned to one cell of the 2 (imagined audience: ingroup vs. external entity) × 2 (ingroup norm: pro-discrimination vs. anti-discrimination) between-participants design.

A sensitivity power analysis using G*Power suggests that this sample size provided 80% power to detect effect sizes of η_p^2 = 0.03 or greater (α = 0.05). Considering that the effect sizes of both C1 in Study 1 and the main effect of imagined audience on ingroup favoritism in Study 2 were of similar magnitude (i.e., η_p^2 = 0.03 for both effects), the present sample size appears well-powered.

Procedure. Participants performed the painter preference task and were assigned to their minimal group. Before performing the point-allocation task, they were assigned to one of the two conditions of imagined audience and were informed about the injunctive norm of the ingroup. After they had performed the point-allocation task, they answered measures of the inferred reaction of other ingroup members, of the perceived injunctive norm of the ingroup and the external entity, and of personal self-esteem. Finally, they provided their political orientation (from 1 = *extremely left wing* to 7 = *extremely right wing;* *M* = 3.53, *SD* = 1.79) and their demographics. Unless otherwise mentioned, answers to all questions in this study were collected on 7-points scales ranging from 1 ("Completely disagree") to 7 ("Completely agree").

Independent variables.

Ingroup norm. Participants were informed about the alleged results of "previous research on the group Dusek". In the pro-discrimination condition [anti-discrimination condition in bracket], they learned that "surveys have consistently shown that the members of the group Dusek think that their ingroup members should [vs. should not] favor the group Dusek over the group Tausig (that they should allocate most of the points to the group Dusek [vs. that they should allocate about fifty percent of the points to each group]).

Imagined audience. The manipulation of the imagined audience was identical to Studies 2′ and 3's (ingroup vs. external entity).

Dependent variables

Ingroup favoritism. Ingroup favoritism was assessed in the same way as in the preceding studies.

Inferred reaction of the ingroup. A score of inferred reaction was computed by subtracting the mean score of the five positive reactions (α = .92, *M* = 4.97, *SD* = 1.32) from the mean score of the six negative reactions (α = .93, *M* = 2.88, *SD* = 1.45). A positive

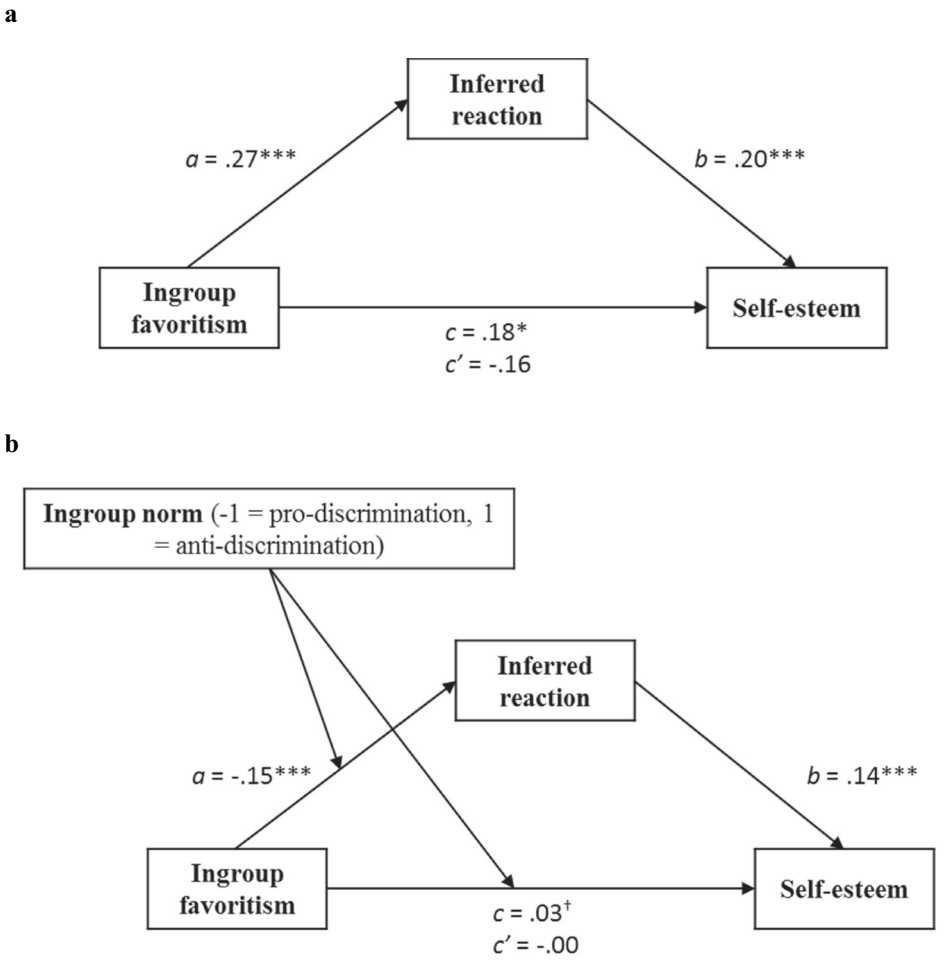

Figure 3. A) Mediation model of Study 2. B) Moderated mediation model of Study 3. Inferred reaction = Inferred (positive) reaction of other ingroup members.

score thus indicated a relatively positive reaction and a negative score indicated a relatively negative reaction (M = 2.09, SD = 2.54).

Norm perceptions. Perception of the injuctive norm of the ingroup and the external entity was measured with the same single items as in Study 2.

Self-esteem. Personal self-esteem was assessed with the same five-item sample of the Rosenberg (1979) scale as in Study 2 (α = .87, M = 5.53, SD = 1.34).

Descriptive statistics and correlations are displayed in Table 4.

Results

We first analyzed norm perceptions and then tested H1b by analyzing results on ingroup favoritism. Finally, we examined the relationship between ingroup favoritism and self-

Table 4. Descriptive statistics and correlations (Study 3)..

Variable	*M*	*SD*	1	2	3	4	5	6
1. Political orientation	3.53	1.79	-	-	-	-	-	-
2. Ingroup favoritism	2.22	3.90	.02	-	-	-	-	-
3. Inferred reaction	2.09	2.54	.09†	.26***	-	-	-	-
4. Self-esteem	5.53	1.34	.07	.16**	.30***	-	-	-
5. Ingroup norm	4.79	1.64	.08	.34***	−.04	.21***	-	-
6. External norm	4.32	1.73	.07	.23*	.15**	.10†	.43***	.07

Notes: *** $p < .001$, * $p < .01$, * $p < .05$, † $p < .10$

esteem, which should be moderated by the ingroup norm. This moderation should be mediated by the inferred reaction of ingroup members (H2b).

Norm perceptions. In order to examine perceptions of the ingroup norm and the external entity norm and to check for the effectiveness of the ingroup norm manipulation, we performed a full-factorial repeated-measures ANOVA on the norm perceptions, with source of the norm (ingroup vs. external entity) as a within-participants factor, and imagined audience (ingroup vs. external entity) and ingroup norm (pro- vs. anti-discrimination) as between-participants factors. The analysis revealed main effects of the Source of the norm, $F(1,342) = 23.56$, $p < .001$, $\eta_p^2 = .06$, and the Ingroup norm, $F(1,342) = 15.17$, $p < .001$, $\eta_p^2 = .04$, which were qualified by a Source of the Norm × Ingroup norm interaction, $F(1,342) = 11.93$, $p = .001$, $\eta_p^2 = .03$. The ingroup norm was perceived as promoting ingroup favoritism to a greater extent in the pro-discrimination ($M = 5.24$, $SE = 0.12$) than in the anti-discrimination norm condition ($M = 4.32$, $SE = 0.12$), $F(1,342) = 29.22$, $p < .001$, $\eta_p^2 = .08$, while perceptions of the external entity norm did not vary as a function of the ingroup norm conditions ($Ms = 4.45$ and 4.19, $SE = 0.13$ and 0.13 in the pro-discrimination and anti-discrimination conditions, respectively), $F(1,342) = 1.91$, $p = .168$, $\eta_p^2 = .01$. This suggests that the ingroup norm manipulation may have been effective in shaping participants norm perceptions.

Ingroup favoritism. We performed a linear regression analysis on ingroup favoritism with imagined audience (coded −1 for ingroup and +1 for external entity), ingroup norm (coded −1 for pro-discrimination and +1 for anti-discrimination) and their interaction as predictors. The analysis first produced a main effect of ingroup norm, $B = -0.42$, $t(344) = -2.03$, $p = .044$, 95% CI [−0.83, −0.01], $\eta_p^2 = .01$. Highlighting conformity to the ingroup norm, ingroup favoritism was higher when the ingroup norm was pro-discriminatory ($M = 2.64$, $SE = 0.29$) than when it was anti-discriminatory ($M = 1.80$, $SE = 0.30$). The analysis also revealed a main effect of imagined audience, $B = -0.45$, $t(344) = -2.18$, $p = .030$, 95% CI [−0.86, −0.04], $\eta_p^2 = .01$. Ingroup favoritism was greater in the ingroup condition ($M = 2.67$, $SE = 0.29$) than in the external entity condition ($M = 1.77$, $SE = 0.29$). At odds with H1b, the expected Imagined audience × Ingroup norm was however non-significant (see Figure 4), $B = -0.16$, $t(344) = -0.08$, $p = .937$, 95% CI [−0.42, 0.39], $\eta_p^2 < .00$.

In order to examine if political orientation was a moderator of the effect of imagined audience, we then performed the same linear regression analysis with the addition of political orientation (mean-centered) in the full-factorial model. Results showed no significant effect involving political orientation, all $Bs \leq 0.14$, $ts(300) \leq 0.75$, $ps \geq .396$, $\eta_p^2 \leq .01$.

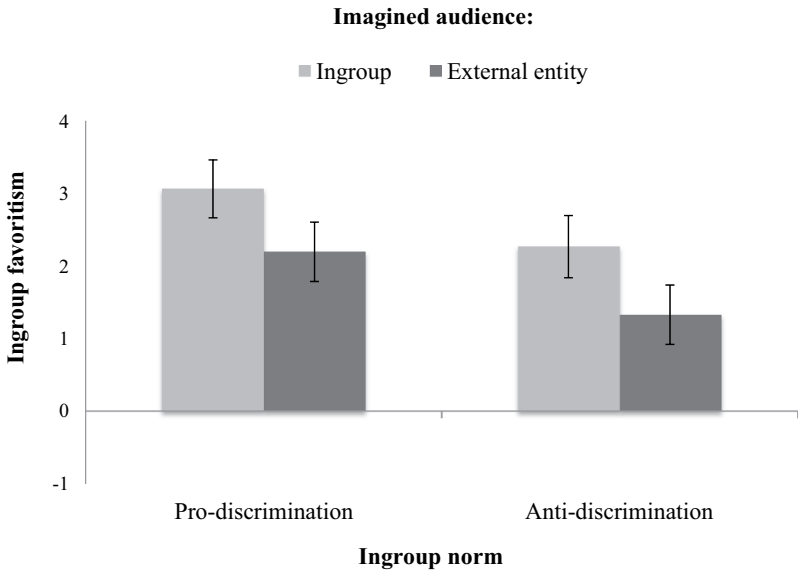

Figure 4. Ingroup favoritism according to the imagined audience and ingroup norm (Study 3). Error bars represent ±1 SE.

A comparison between the basic model and the moderation model with the detailed effects can be found in Table 5.

Inferred reaction of the ingroup. A linear regression analysis was performed on inferred reaction of the ingroup with ingroup norm (coded −1 for pro-discrimination and +1 for anti-discrimination), imagined audience (coded −1 for ingroup and +1 for external entity), ingroup favoritism (mean-centered) and their interactions as predictors. Results showed a main effect of ingroup norm, $B = 0.64$, $t(340) = 5.10$, $p < .001$, 95% CI [0.39, 0.89], $\eta_p^2 = .07$, and a main effect of ingroup favoritism, $B = 0.66$, $t(340) = 5.07$, $p < .001$, 95% CI [0.40, 0.91], $\eta_p^2 = .07$, which were qualified by an Ingroup norm × Ingroup favoritism interaction, $B = -0.15$, $t(340) = -4.54$, $p < .001$, 95% CI [−0.22, −0.09], $\eta_p^2 = .06$. In the pro-discrimination norm condition, ingroup favoritism was positively associated with the inferred (positive) reaction of the ingroup, $B = 0.32$, $t(340) = 7.47$, $p < .001$, 95% CI [0.24, 0.40], $\eta_p^2 = .14$. In the anti-discrimination norm condition, ingroup favoritism was not related to inferred reaction of the ingroup, $B = 0.02$, $t(340) = 0.35$, $p = .729$, 95% CI [−0.08, 0.12], $\eta_p^2 < .01$. This suggests that participants in the pro-discrimination norm condition clearly perceived that ingroup favoritism is praised by ingroup members (i.e., they acknowledged that the ingroup norm is pro-discriminatory). However, participants in the anti-discrimination condition are quite ambivalent: they neither perceived that ingroup favoritism is discouraged (i.e., which would have acknowledged the induced anti-discrimination norm), nor that ingroup favoritism is praised (i.e., which would have acknowledged the default pro-discrimination norm). All other effects were non-significant, all $Bs \leq 0.20$, $ts(340) \leq 0.75$, $ps \geq .109$, $\eta_p^2 \leq .01$

Self-esteem. In order to test predictions derived from the normative perspective of the self-esteem hypothesis (H2b), we examined consequences of discriminating on self-esteem. We first performed the same full-factorial linear regression analysis on

self-esteem, with ingroup norm, imagined audition and ingroup favoritism as predictors. Results showed a main effect of ingroup favoritism, $B = 0.05$, $t(340) = 2.86$, $p = .004$, 95% CI [0.02, 0.09], $\eta_p^2 = .02$, which was qualified by a marginally significant Ingroup norm × Ingroup favoritism interaction, $B = -0.03$, $t(340) = -1.70$, $p = .090$, 95% CI [−0.07, 0.01], $\eta_p^2 = .01$. Examination of the simple effects showed that, as predicted, ingroup favoritism positively predicted self-esteem in the pro-discrimination condition, $B = 0.09$, $t(340) = 3.55$, $p < .001$, 95% CI [0.04, 0.14], $\eta_p^2 = .04$, but not in the anti-discrimination condition, $B = 0.02$, $t(340) = 0.76$, $p = .45$, 95% CI [−0.04, 0.08], $\eta_p^2 < .01$[2].

We then examined if this effect is explained by the inferred reaction of ingroup members (see Figure 3, right panel). We performed a PROCESS Model 8 moderated mediation analysis, using 10,000 bootstrapped samples following Hayes (2013) recommendations. The model included ingroup favoritism as the predictor, ingroup norm (coded −1 for pro-discrimination and +1 for anti-discrimination) as the moderator, self-esteem as the dependent variable, inferred reaction of the ingroup as the mediator, and imagined audience as a controlled variable. Consistent with the analysis above, findings first revealed a significant Ingroup norm × Ingroup favoritism interaction on the inferred (positive) reaction of the ingroup, $B = -0.15$ $SE = .03$, $p < .001$, 95% CI [−0.21, −0.08], which in turn predicted self-esteem, $B = 0.14$ $SE = .03$, $p < .001$, 95% CI [0.08, 0.20]. The direct effect of ingroup favoritism on self-esteem was non-significant in the pro-discrimination condition, $B = 0.04$ $SE = .04$, $p = .15$, 95% CI [−0.01, 0.09], as well as in the anti-discrimination condition, $B = 0.03$ $SE = .03$, $p = .32$, 95% CI [−0.03, 0.08]. The indirect effect (through inferred reaction of the ingroup) was significant in the pro-discrimination condition, $B = 0.05$ $SE = .01$, 95% CI [0.02, 0.07], but not in the anti-discrimination condition, $B = 0.01$ $SE = .03$, 95% CI [−0.05, 0.08]. Finally, the global moderated mediation model was significant, $B = -0.04$ $SE = .01$, 95% CI [−0.07, −0.02].

Taken together, these results indicate that, when the ingroup norm is pro-discriminatory, favoring the ingroup is associated with higher self-esteem, because the act is perceived as eliciting positive reactions from the ingroup. The reversed tendency was however not observed when the ingroup norm was anti-discriminatory.

Table 5. Comparison of the linear regression models in Study 3. Dependent variable is ingroup favoritism.

Model	Adjusted R-Squared		*B*	*Std. Error*	*t*	*p*	η^2_p
1	.018	Intercept	2.218	0.207	10.703	< .001	.250
		Audience	−0.451	0.207	−2.179	.030	.014
		Norm	−0.420	0.207	−2.025	.044	.012
		Audience ×Norm	−0.016	0.207	−0.079	.937	.000
2	.011	Intercept	2.243	0.209	10.729	< .001	.253
		Audience	−0.455	0.209	−2.175	.030	.014
		Norm	−0.440	0.209	−2.104	.036	.013
		Audience ×Norm	−0.020	0.209	−0.094	.925	.000
		Political	0.076	0.120	0.636	.525	.001
		Audience ×Political	−0.102	0.120	−0.850	.396	.002
		Norm ×Political	0.043	0.120	0.361	.718	.000
		Audience ×Norm ×Political	0.086	0.120	0.717	.474	.002

Discussion

As in the preceding studies, the findings showed that ingroup favoritism was higher when the imagined audience was the ingroup than when it was an external entity. However, at odds with H1b, this effect was as evident in the anti-discrimination norm condition as in the pro-discrimination condition. This could be explained by the fact that our induction of the anti-discrimination norm may not have been strong enough, as it could have been counteracted by the default tendency to infer that the ingroup norm promotes ingroup favoritism. To illustrate, a participant in the anti-discrimination condition commented at the end of the study: "I do not believe that the majority of my group felt that both groups should be treated fairly." This skepticism toward the anti-discrimination norm is also highlighted by ingroup favoritism not leading to inferred negative reactions of the ingroup.

The findings showed partial support for H2b. Similar to Study 2 (in which participants were not informed about the ingroup norm), ingroup favoritism was related to higher self-esteem in the pro-discrimination norm, because this behavior was perceived as eliciting positive reactions from ingroup members. However, the reversed tendency was not observed in the anti-discriminatory norm condition. Again, this is probably explained by participants being ambivalent about the ingroup norm (the explicit information about the ingroup norm promoting fairness could have been counterbalanced by the default inference of a discriminatory ingroup norm).

General Discussion

The aim of the present set of studies was to test the idea that, in the minimal group paradigm, people show ingroup favoritism because of their willingness to comply with the ingroup norm which is inferred to promote such a behavior. Accordingly, we hypothesized that ingroup favoritism results from the imagined reaction of other ingroup members. In line with H1, we showed that ingroup favoritism was greater when people were asked to imagine the presence/observance of other ingroup members or in a default setting, than when they were asked to imagine the presence of an entity that is external to the intergroup contexts (i.e., social scientists). This suggests that participants in the minimal group paradigm rely by default on the inferred ingroup discriminatory norm to determine their intergroup behavior.

At odds with H1a, the effect of imagined audience on ingroup favoritism did not depend on people's motive to affiliate to social groups (when both measured and experimentally induced). This may imply that the tendency to comply with the inferred ingroup discriminatory norm may not be driven by people's affiliation motives per se. An alternative explanation of this lack of effect could be related to the nature of the measure. The affiliation motive was indeed measured or manipulated at a relational level rather than at a more collective level, where social identity could be salient.

We find interesting however that in Studies 1 and 2, the impact of the imagined audience on ingroup favoritism was moderated by political orientation, being more pronounced among conservatives than among liberals. Indeed, conservatives showed high levels of ingroup favoritism in the ingroup and the control conditions (as compared to liberals). Ingroup favoritism was however reduced in the external condition.

Conversely, liberals showed low levels of ingroup favoritism, regardless of the imagined audience. We may speculate that, in some circumstances, ingroup favoritism is determined by the salient source of the norm (the ingroup discriminatory norm vs. the external egalitarian norm) and by people's prior values (conservatives' values being more related to ingroup loyalty and liberals' values being more humanitarian; see Caprara et al., 2006; Graham et al., 2011). The findings suggest that liberals may only base their behavior on their ideologies, and display low levels of ingroup favoritism, regardless of the source of the norm. On the other hand, conservatives may be particularly sensitive to the ingroup norm. As a result, they would show higher levels of ingroup favoritism, unless their mind is diverted by a more egalitarian external body. That being said, such a moderation was not observed in Study 3 and thus more studies should be carried out in order to better understand the role of political orientation in the emergence of ingroup favoritism in minimal groups.

Results also did not support H1b. The effect of the imagined audience on ingroup favoritism was as evident when participants were informed that the ingroup norm was pro-discriminatory as when they were informed that the norm was anti-discriminatory. We tentatively suggest that the anti-discriminatory norm condition evoked skepticism among participants about whether this was reliable. The information about the anti-discriminatory norm may have been insufficiently strong to counteract the default expectation that the ingroup norm promotes ingroup favoritism.

This research also examined the reasons why members of minimal groups would conform to the ingroup norm while they do not anticipate any direct social reward or punishment from their behavior (see below). We hypothesized that people comply with the inferred ingroup discriminatory norm because they see it as the loyal behavior and the right thing to do in order to be considered a good group member. If true, self-esteem should be enhanced as a result of imagined approval from ingroup members. In line with H2a, the results consistently showed that favoring the ingroup was associated with enhanced self-esteem. This was accounted for by the inferred positive reaction of ingroup members. Moreover, this tendency only appeared when the ingroup norm was pro-discriminatory, but not when it was anti-discriminatory (H2b).

Theoretical Implications

The present paper examined the role of social norms as a *determining* source of intergroup discrimination, rather than – or in addition to – it being a *moderator*. We hereby aimed to revive Tajfel's abandoned hypothesis, according to which people discriminate in minimal groups because they perceive the ingroup norm to be pro-discriminatory.

The default inference that the ingroup values ingroup favoritism has received support from recent research (Iacoviello & Spears, 2018). People indeed infer that ingroup favoritism is the appropriate thing to do in order to be praised by ingroup members. The present paper goes a critical step further by showing that ingroup favoritism stems from *conformity* to this default ingroup norm. Our data indeed indicates that ingroup favoritism is driven by people's desire to receive (imagined) approval from the ingroup.

We believe the current research makes critical empirical and theoretical advances over earlier demonstrations of the normative perspective of ingroup favoritism (Iacoviello & Spears, 2018). Earlier research was open to the objection that such behavior could reflect

compliance with (rather than conformity to) what the group valued (see Deutsch & Gerard, 1955). This point is particularly important because if people act according to "group pressure" in line with group expectation and interests, this account becomes effectively (and practically) impossible to distinguish from the reciprocity explanation of ingroup favoritism (Gaertner & Insko, 2000; Yamagishi & Kiyonari, 2000). That is, being *directly* accountable to the ingroup audience could enhance this individual self-interest explanation (I reward you so you reward me in return). The *imagined* audience paradigm we used in the current research rules out this self-interest account, because participants are not directly accountable to this audience. There is indeed nothing in the paradigm that makes participants believe that their own behavior will then be rewarded somehow. The current studies thus provide a much more conservative and diagnostic test of our prediction and that the process is one of conformity for symbolic reasons related to the maintenance of the self-image rather than compliance driven by self-interest-based reciprocity.

Our findings also suggest that favoring the ingroup results in subjectively affirming or enhancing people's image as group members and thus, their self-esteem as such. It is important here to distinguish between two approaches that deal with the self-esteem hypothesis: the classical perspective related to social identity theory and the normative perspective outlined here. Whereas both approaches predict the same outcome (i.e., that favoring the ingroup leads to greater self-esteem), the underlying mechanism is different. On the one hand, the classical perspective argues that ingroup favoritism contributes to enhancing the ingroup status, which then boosts the member's self-esteem (see Abrams & Hogg, 1988; Martiny & Rubin, 2016). By contrast, the normative perspective predicts that self-esteem increases after having favored the ingroup, because this is perceived as the appropriate thing to do for the group (Hertel & Kerr, 2001; Iacoviello et al., 2017; Scheepers et al., 2009). In other words, the social identity approach contends that self-esteem is the result of being *member of a good group*, while the normative perspective contends that self-esteem stems from being *a good group member*. By showing that the inferred positive reaction of ingroup members following ingroup favoritism is responsible for the boost in self-esteem (except when the ingroup norm is explicitly anti-discriminatory), the present research speaks in favor of the normative approach. It is however possible that both perspectives have some validity and that both processes work in parallel. We should also underline that we used a measure of personal/global self-esteem instead of collective self-esteem, because we believe it is more consistent with the original theorization of the self-esteem hypothesis (Abrams & Hogg, 1988) and the normative perspective (see Iacoviello & Spears, 2018, for a discussion). This area of research is promising and more research is needed in order to better understand the relationship between ingroup favoritism and self-esteem.

Finally, the imagined audience paradigm is a promising avenue for future research examining normative dynamics. In order to test for our hypotheses, the present research compared the ingroup to an external body. However, it would also be informative to examine how people would react in the imagined presence of an outgroup. This could either increase ingroup favoritism (as predicted by models emphasizing the competition for limited resources; e.g., Sherif et al., 1961) or decrease it (as predicted by the contact hypothesis; Allport, 1954).

Conclusion

Current social-psychological models mostly focus on intra-individual and basic psychological functions as the very source of intergroup discrimination. This implies that people discriminate because they are predetermined to act like this, and social norms are usually limited to a moderating role (i.e., egalitarian norms can counteract this genuine tendency to discriminate). By showing that social norms play a *determining* role in the emergence of ingroup favoritism, this research calls for re-integrating older theories (e.g., Horowitz, 1936; Minard, 1952; Pettigrew, 1958; Sherif & Sherif, 1953) and re-focusing on society (where the norms develop and are transmitted) as one key responsible agent of intergroup discrimination. Again, this is not to argue for the normative perspective to be considered as the only or the better explanation in accounting for ingroup favoritism. But such (re-)emphasis on social norms would have important consequences for scholars, policy makers, and laypeople in their everyday life. Paradoxically it may be easier to challenge discrimination grounded in groups and society than discrimination grounded in the heart or head.

Notes

1. Despite Helmert contrasts being more appropriate in the present case, we also display the results from an ANOVA on the ingroup favoritism score with imagined audience as the between-subject factor (ingroup vs. external entity vs. control). The analysis showed a marginally significant effect of imagined audience, $F(2,155) = 2.75$, $p = .067$, $\eta_p^2 = .03$. Pairwise comparisons further revealed a significantly higher ingroup favoritism score in the ingroup condition than in the external entity condition ($Ms = 2.32$ and 0.76, $SEs = 0.48$ and 0.48, respectively), $p = .021$. No significant differences neither appeared between the external entity condition and the control condition ($M = 1.71$, $SE = 0.48$), $p = .161$, nor between the ingroup condition and the control condition, $p = .365$.
2. Their main effects were non-significant, all $Bs \leq 0.38$, $ts(152) \leq 1.65$, $ps \geq .101$, $\eta^2_p \leq .02$, and they did not moderate C2 either, all $Bs \leq 0.26$, $ts(152) \leq 0.97$, $ps \geq .335$, $\eta^2_p \leq .01$.
3. The analysis also showed an Ingroup norm × Imagined audience interaction, $B = -0.17$, $t(340) = -2.41$, $p = .016$, 95% CI [−0.31, −0.03].

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